

TECHNICAL NOTES

SOURCES OF DATA

Births

The birth chapter encompasses births to New Jersey residents during the calendar year 2003. The birth certificate is the source document for data included in the analysis. New Jersey law requires that the attending physician, midwife, or person acting as midwife file a certificate of birth with the Local Registrar within five days of a birth within the state. Statistics on births to New Jersey residents which occurred in other states are also included in this report. The inclusion of these data is made possible through the Vital Statistics Cooperative Program (VSCP), which encourages the exchange of information on vital events between the states of occurrence and residence.

In January of 1996, the New Jersey Department of Health and Senior Services (NJDHSS) began a pilot test of its electronic birth certificate (EBC) in four maternity hospitals in the state. Upon successful completion of this test, the EBC was systematically installed in other New Jersey birthing facilities over the next two years. By the end of 1998, all New Jersey birthing facilities were reporting births to the State through the EBC system. This year's report is the first in this series to include perinatal data provided through this system but not on the traditional birth certificate.

Infant Deaths

The infant death information contained in this report covers infant deaths of New Jersey residents during the 2003 calendar year. There is no separate infant death certificate, just the standard death certificate used for deaths of all ages. Infant mortality data are presented from the linked infant death-birth match file which has death certificates for infants matched with their birth certificates. This file allows analysis of maternal characteristics and newborn health information that is not on the death certificate. In some years, the number of infant deaths from the all ages death file may differ slightly from the number from the linked file due to additional quality control on the linked file.

Fetal Deaths

The fetal death section encompasses fetal deaths to New Jersey residents during the calendar year 2003. The fetal death certificate is the source document. Fetal deaths occurring after the completion of 20 or more weeks of gestation are required to be reported to the State Registrar by New Jersey law. [Induced abortions](#) of 20 weeks or more gestation are encompassed by this requirement, but are not included in the fetal death count. Fetal death figures presented in this report, therefore, include only spontaneous fetal deaths (also called stillbirths) beyond 19 weeks of gestation. Fetal deaths of unknown or unstated gestational age are also included. Only fetal deaths occurring to females who were New Jersey residents are included.

Deaths

The mortality information contained in this report covers deaths of New Jersey residents during the 2003 calendar year. The report's source document is the death certificate. New Jersey law requires the prompt filing of a death certificate by the proper authority, such as hospital personnel, physicians, medical examiners, and funeral directors, in the event of a death occurring in the state. These certificates are submitted to the office of the State Registrar, where they are recorded and filed permanently. Statistics on deaths of New Jersey residents which occurred in other states are obtained through participation in the national VSCP. The death data presented in this report are for New Jersey residents.

All of the causes of deaths included in this report are underlying causes, and were coded by the National Center for Health Statistics' SuperMICAR and ACME software in accordance with the *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision* (ICD-10), adapted for use in the United States. Additional causes of death listed on the certificates, including the immediate and intermediate causes, are not considered in the analysis. The inclusion of all listed causes of death (multiple causes of death) could lead to somewhat different results.

Marriages and Divorces

Information on marriages in this report was obtained from marriage certificates issued in New Jersey in 2003. Marriage certificates are filed with the State Registrar. Divorce and annulment statistics were provided by the New Jersey Judiciary, Administrative Office of the Courts, Family Practice Division, Research and Statistics Section. Marriages are recorded by the place of issuance of the certificate and divorces and annulments are recorded by place of judgment. Since no mechanism for interstate exchange of resident marriage and divorce data exists, marriages, divorces, and annulments of New Jersey residents which occur outside of the state are not included in this report, while marriages and divorces of out-of-state residents occurring in New Jersey are included.

Births, Deaths, and Marriages

The birth, infant death, fetal death, all-age death, and marriage data presented in this report were generated from data files available at the time of preparation of the respective chapters. Any data pertaining to a vital event for which a certificate was filed after that time or relating to corrections or revisions made since the data were processed for this report are not included. Vital events computer files are periodically updated by Office of Vital Statistics (OVS) and CHS staff based on correction reports received from local registrars and from data quality control analyses conducted by CHS. This report incorporates data from the most recently updated files. Thus, 2003 data presented in future reports of vital events may differ slightly from numbers presented in this report.

Population

Population estimates presented in this report and used to calculate various rates were derived from the "Bridged-race Vintage 2003 postcensal population estimates" file prepared by the National Center for Health Statistics ([NCHS](#)) in collaboration with the [U.S. Bureau of the Census](#). These estimates result from bridging the 31 race categories used in the 2000 Census, as specified in the 1997 federal [OMB](#) standards for the collection of data on race and ethnicity, to the four race categories specified under the 1977 standards. Many data systems, such as vital statistics, are continuing to use the 1977 standards during the transition to full implementation of the 1997 standards. Estimates were developed for each state and its counties by age, race, Hispanic ethnicity, and sex categories. The current set of estimates presented in this report has not been rounded. However, it should not be presumed that they have the degree of accuracy which such precise figures might imply. NCHS does not consider these estimates to be accurate for each individual cell and recommends aggregating the individual cells to larger groups when the data are used for purposes of analysis. Estimates are distributed by five-year age groups, sex, five race/ethnicity groups (White, Black, Hispanic, Asian and Pacific Islander, and American Indian and Alaska Native), and each county, where Hispanics may be of any race and the other four race groups do not include Hispanics.

QUALITY OF DATA

The reporting of births and deaths is considered to be essentially complete. According to NCHS, more than 99 percent of births and deaths are registered. Reporting of fetal deaths is believed to be somewhat less complete. For later periods of gestation, however, fetal death reporting is thought to be more complete ([Hoyert, 1996](#)). The completeness of reporting by residence is dependent on the effective functioning of the interstate data exchange program for certificates which is fostered and encouraged by NCHS. Research has shown that there is some degree of slippage in receiving information on all births and deaths of New Jersey residents occurring in other states. However, the number of missing events is thought to be small, relative to the overall number of events.

The quality of the data included in this report is a function of the accuracy and completeness of the information recorded on the respective certificates and of the quality control procedures employed in the coding and keying processes. A query program in which the individual(s) responsible for completing the certificate is questioned about missing or conflicting information is carried out by staff of OVS. This process is augmented by the data quality control analyses performed by the CHS using all of the NCHS edit criteria.

In order to participate in the national VSCP, states had to achieve an error rate of 2% or less on each certificate item for three consecutive months. The error rates relate to both coding and data entry errors. New Jersey has met the error tolerance requirements for the cooperative program. After satisfying initial requirements, a monthly sample of records is used to determine that the error rate on each birth certificate item is approximately 4% or less and is no more than 2% for each death certificate item other than the medical cause-of-death information. Due to the complexity of the coding system, cause-of-death coding has a 5% error tolerance level set by NCHS.

ALLOCATION OF DATA BY RESIDENCE OR OCCURRENCE

For public health planning and policy determination, the most useful population to study is usually the resident population of an area. In the case of births, deaths, and fetal deaths, the existence of resident certificate exchange agreements among the registration areas in the country permits analysis of resident birth and death statistics. In this report, the data presented for births, infant deaths, fetal deaths, and all-age deaths represent vital events of the resident population. Marriage and divorce statistics in this report represent vital events which occurred in New Jersey, regardless of the state of residence of the individuals involved.

Allocation of vital events by place of residence within the state is sometimes difficult because classification depends on the statement of the usual place of residence provided by the informant at the time the certificate is completed. For a variety of reasons, the information given may be incorrectly recorded. A common source of error is the confusion of mailing address with residence address. A major project to correctly allocate New Jersey births by municipality of mother's residence was completed in 1998. The degree to which incorrect information on municipality of residence has been recorded on death certificates is not precisely known, but this issue is generally a problem only for certain minor civil divisions. As of 2003, the decedent's address was not available on the electronic file of death certificates; consequently deaths could not be correctly allocated in the manner in which births have been. Municipality-level data are no longer included in this report series but are available on CHS's website at <http://nj.gov/health/chs/muni.htm>.

RACE, ETHNICITY, AND NATIVITY

A race group (White, Black, American Indian/Alaska Native, Chinese, Japanese, Hawaiian, Filipino, Asian Indian, Korean, Samoan, Vietnamese, Guamanian, other Asian/Pacific Islander, other race, and an unknown race category) and an ethnicity (Non-Hispanic, Mexican, Puerto Rican, Cuban, Central or South American, other Hispanic, and an unknown ethnicity category) are reported for each individual for whom a birth, death, or fetal death certificate is filed. The race and ethnicity of an infant are not reported on the birth or fetal death certificate and are classified for statistical purposes as the race and ethnicity of the mother. For infant deaths, the child's race is available on the death certificate, but the race and ethnicity of the mother on the birth certificate are used in this report series. By analyzing infant deaths based on the mother's race and ethnicity, the data are comparable with the birth data used for denominators in calculating infant mortality rates.

Race/ethnicity designations used in this report are White, Black, Hispanic, Asian/Pacific Islander, and Other Races, where Hispanics may be of any race and the other race groups do not include Hispanics (but include those with ethnicity not stated). The Hispanic category includes persons of Mexican, Puerto Rican, Cuban, Central/South American, or other Hispanic ethnicity, regardless of race. The Asian/Pacific Islander category includes persons of Chinese, Japanese, Hawaiian, Filipino, Asian Indian, Korean, Samoan, Vietnamese, Guamanian, and other Asian and Pacific Islander descent who were not reported as Hispanic. The Other Race category includes all race groups other than White, Black, and Asian/Pacific Islander who were not reported as Hispanic.

Race and ethnicity classifications are based on self-reports, or in the case of death records, on reports from respondents, usually a family member, or from persons responsible for preparing the death

certificates. Maternal race and ethnicity reporting on birth and fetal death certificates has been found to be virtually complete. However, race reporting for races other than White and Black and reporting of Hispanic ethnicity on death certificates is believed to be somewhat under-reported. The relatively low age-adjusted death rates for Hispanics and Asians/Pacific Islanders are believed to be due to several factors including data artifact, migration, and lifestyle. A 1999 study by NCHS found that, nationally, underreporting of Hispanic origin and Asian/Pacific Islander race on death certificates was approximately 7% and 13%, respectively ([Rosenberg, 1999](#)). A study done in 2001 by New Jersey's CHS using a Spanish surname list developed by the U.S. Census Bureau ([Word, 1996](#)) estimated New Jersey's underreporting of Hispanics to be approximately 8.4% for 1994-1998 data ([Baron, 2001](#)). An attempt to estimate the underreporting of Asian/Pacific Islander race on New Jersey death certificates using a surname list was unsuccessful. Other studies suggest there is age misreporting on death certificates, particularly among those aged 65 and over, and that misreporting is more significant among Hispanics than among non-Hispanic Whites ([Elo, 2004](#)). Selective in- and out-migration, also known as the "healthy migrant effect" and the "salmon-bias effect," may also contribute to the Hispanic and Asian/Pacific Islander mortality advantages, since a relatively high proportion of those living in New Jersey are foreign-born ([Singh, 2001](#), [Palloni, 2004](#)). Finally, behavioral and cultural factors such as smoking, alcohol use, diet, and family support may result in lower mortality rates among immigrants and first generation citizens, the majority of whom are Hispanic or Asian/Pacific Islander ([Singh, 2001](#)).

Three nativity categories are used in this report: native-born, Puerto Rico-born, and foreign-born. Native-born includes those born in the 50 states or Washington, D.C. Foreign-born includes those born anywhere other than the 50 states, D.C., and Puerto Rico. Foreign-born, therefore, includes other U.S. territories such as American Samoa, Guam, and U.S. Virgin Islands because all territories are not coded separately in the electronic files of births and deaths. Foreign-born also includes those born abroad to American parents because birth and death certificates do not have an item to distinguish those cases. Numbers of births to or deaths of New Jersey residents born in territories other than Puerto Rico or born abroad to American parents are extremely small.

DEFINITIONS

Births

- *Abnormal Conditions of the Newborn* ([Martin, 2005](#)):
 - *Anemia*: hemoglobin level of less than 13.0 g/dL or a hemocrit of less than 39 percent.
 - *Birth Injury*: impairment of the infant's body function or structure due to adverse influences which occurred at birth.
 - *Fetal Alcohol Syndrome*: a syndrome of altered perinatal growth and development occurring in infants born of women who consumed excessive amounts of alcohol during pregnancy.
 - *Hyaline Membrane Disease/RDS*: a disorder primarily of prematurity, manifested clinically by respiratory distress and pathologically by pulmonary hyaline membranes and incomplete expansion of the lungs at birth.
 - *Meconium Aspiration Syndrome*: aspiration of meconium by the fetus or newborn affecting the lower respiratory system.
 - *Assisted Ventilation*: a mechanical method of assisting respiration for newborns with respiratory failure.
 - *Seizures*: a seizure of any etiology.
- *Apgar Score*: a summary measure of an infant's clinical condition based on heart rate, respiratory effort, muscle tone, reflex irritability, and color taken at one and five minutes after delivery. Each of the factors is given a score of 0, 1, or 2; the sum of these five values is the Apgar score which can range from 0 to 10. A score of 10 is optimal and a low score (usually considered to be less than 7) is considered an indication of potential health problems and raises concerns about the subsequent health and survival of the infant.
- *Birth (or Live Birth)*: the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which, after such separation, breathes or shows any

evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

- *Birth Weight*: the first weight of the newborn obtained after delivery. Birth weight is recorded in grams.
- *Complications of Labor and/or Delivery* ([Martin, 2005](#)):
 - *Febrile*: a fever greater than 100 degrees F or 38 C occurring during labor and/or delivery.
 - *Moderate or Heavy Meconium*: meconium consists of undigested debris from swallowed amniotic fluid, various products of secretion, excretion, and shedding by the gastrointestinal tract; moderate to heavy amounts of meconium in the amniotic fluid noted during labor and/or delivery.
 - *Premature Rupture of Membranes (more than 12 hours)*: rupture of the membranes at any time during pregnancy and more than 12 hours before the onset of labor.
 - *Abruptio Placenta*: premature separation of a normally implanted placenta from the uterus.
 - *Placenta Previa*: implantation of the placenta over or near the internal opening of the cervix.
 - *Other Excessive Bleeding*: the loss of a significant amount of blood from conditions other than abruptio placenta or placenta previa. [An EBC software cross-edit does not allow this complication to be selected unless blood loss greater than or equal to 750 cc for vaginal deliveries and 1,200 cc for cesarean deliveries is entered.]
 - *Seizures During Labor*: maternal seizures occurring during labor from any cause.
 - *Precipitous Labor (less than 3 hours)*: extremely rapid labor and delivery lasting less than 3 hours.
 - *Prolonged Labor (more than 20 hours)*: abnormally slow progress of labor lasting more than 20 hours.
 - *Dysfunctional Labor*: failure to progress in a normal pattern of labor.
 - *Breech/Malpresentation*: at birth, the presentation of the fetal buttocks rather than the head, or other malpresentation.
 - *Cephalopelvic Disproportion*: the relationship of the size, presentation, and position of the fetal head to the maternal pelvis which prevents dilation of the cervix and/or descent of the fetal head.
 - *Cord Prolapse*: premature expulsion of the umbilical cord in labor before the fetus is delivered.
 - *Anesthetic Complications*: any complication during labor and/or delivery brought on by an anesthetic agent or agents.
 - *Fetal Distress*: signs indicating fetal hypoxia (deficiency in amount of oxygen reaching fetal tissues).
- *Congenital Anomalies of the Child* ([Martin, 2005](#)):
 - *Central Nervous System Anomaly*: includes anencephalus, spina bifida/meningocele, hydrocephalus, microcephalus, or other anomaly of the brain, spinal cord, or nervous system.
 - *Heart Malformation*: congenital anomaly of the heart.
 - *Other Circulatory/Respiratory Anomaly*: other specified anomalies of the circulatory or respiratory systems.
 - *Gastrointestinal Anomaly*: includes rectal atresia/stenosis, tracheo-esophageal fistula/esophageal atresia, omphalocele/gastroschisis, or other anomaly of the gastrointestinal system.
 - *Urogenital Anomaly*: includes malformed genitalia, renal agenesis, or other anomaly of the organs concerned in the production and excretion of urine, together with organs of reproduction.
 - *Cleft Lip/Palate*: cleft lip is a fissure or elongated opening of the lip; cleft palate is a fissure in the roof of the mouth.
 - *Polydactyly/Syndactyly/Adactyly*: polydactyly is the presence of more than five digits on either hands and/or feet; syndactyly is having fused or webbed fingers and/or toes; adactyly is the absence of fingers and/or toes.
 - *Club Foot*: deformities of the foot, which is twisted out of shape or position.
 - *Other Musculoskeletal/Integumental Anomaly*: includes diaphragmatic hernia or other anomaly of the muscles, skeleton, or skin.
 - *Down's Syndrome*: the most common chromosomal defect with most cases resulting from an extra chromosome.
 - *Other Chromosomal Anomaly*: any other chromosomal aberration.

- *Feeding at Discharge*: the type of feedings (breast, formula, or both) given in the 24 hours prior to discharge from the hospital.
- *Gestational Age*: clinical estimate of the length of time from the first day of the mother's last normal menstrual period to the date of delivery.
- *Low Birth Weight*: birth weight of less than 2,500 grams or approximately 5 pounds, 8 ounces. Prior to 1989, New Jersey defined low birth weight as 2,500 grams or less.
- *Marital Status*: the marital status of the mother for statistical purposes is determined for data years after 1988 by the response to the birth certificate item, "Mother married? (At birth, conception, or any time between)".
- *Medical Risk Factors for This Pregnancy* ([Martin, 2005](#)):
 - *Anemia*: hemoglobin level of less than 10.0 g/dL during pregnancy or a hematocrit of less than 30 percent during pregnancy.
 - *Cardiac Disease*: disease of the heart.
 - *Acute or Chronic Lung Disease*: disease of the lungs during pregnancy.
 - *Diabetes*: metabolic disorder characterized by excessive discharge of urine and persistent thirst; includes juvenile onset, adult onset, and gestational diabetes during pregnancy.
 - *Genital Herpes*: infection of the skin of the genital area by herpes simplex virus.
 - *Hydramnios/Oligohydramnios*: any noticeable excess (hydramnios) or lack (oligohydramnios) of amniotic fluid.
 - *Hemoglobinopathy*: a blood disorder caused by alteration in the genetically determined molecular structure of hemoglobin (example: sickle cell anemia).
 - *Chronic Hypertension*: blood pressure persistently greater than 140/90, diagnosed prior to onset of pregnancy or before the 20th week of gestation.
 - *Pregnancy-Associated Hypertension*: an increase in blood pressure of at least 30mm Hg systolic or 15mm Hg diastolic on two measurements taken 6 hours apart after the 20th week of gestation.
 - *Eclampsia*: the occurrence of convulsions and/or coma unrelated to other cerebral conditions in women with signs and symptoms of preeclampsia.
 - *Incompetent Cervix*: characterized by painless dilation of the cervix in the second trimester or early in the third trimester of pregnancy, with premature expulsion of membranes through the cervix and ballooning of the membranes into the vagina, followed by rupture of the membranes and subsequent expulsion of the fetus.
 - *Previous Infant 4,000+ Grams*: the birth weight of a previous live-born child was over 4,000 grams (8 pounds, 14 ounces).
 - *Previous Preterm or Small-for-Gestational Age Infant*: previous birth of an infant prior to term (before 37 completed weeks of gestation) or of an infant weighing less than the tenth percentile for gestational age using a standard weight-for-age chart.
 - *Renal Disease*: kidney disease.
 - *Rh Sensitization*: the process or state of becoming sensitized to the Rh factor as when an Rh-negative woman is pregnant with an Rh-positive fetus.
 - *Uterine Bleeding*: any clinically significant bleeding during the pregnancy taking into consideration the stage of pregnancy; any second or third trimester bleeding of the uterus prior to the onset of labor.
- *Multiple Births*: individual births in twin, triplet, quadruplet, and higher order multiple deliveries.
- *Obstetric Procedures* ([Martin, 2005](#)):
 - *Amniocentesis*: surgical transabdominal perforation of the uterus to obtain amniotic fluid to be used in the detection of genetic disorders, fetal abnormalities, and fetal lung maturity.
 - *Electronic Fetal Monitoring*: monitoring with external devices applied to the maternal abdomen or with internal devices with an electrode attached to the fetal scalp and a catheter through the cervix into the uterus, to detect and record fetal heart tones and uterine contractions.

- *Induction of Labor*: the initiation of uterine contractions before the spontaneous onset of labor by medical and/or surgical means for the purpose of delivery.
- *Stimulation of Labor*: augmentation of previously established labor by use of oxytocin.
- *Tocolysis*: use of medications to inhibit preterm uterine contractions to extend the length of pregnancy and, therefore, avoid a preterm birth.
- *Ultrasound*: visualization of the fetus and the placenta by means of sound waves.
- *Plurality*: singleton, twin, triplet, quadruplet, etc.
- *Previous Pregnancy Losses*: from the mother's pregnancy history on the birth certificate, a previous spontaneous or induced termination of pregnancy at any time after conception that did not result in a live birth.
- *Teen Birth*: birth to a mother under 20 years of age.
- *Tobacco, Alcohol, and Drug Use during Pregnancy*: use of these substances self-reported by mother.
- *Trimester of Pregnancy*: the first trimester includes the first 12 weeks of pregnancy, the second trimester encompasses the thirteenth through twenty-fourth weeks and the third trimester is the period after the twenty-fourth week through delivery.
- *Tubal Ligation*: the tying off of the fallopian tubes to prevent pregnancy.
- *Very Low Birth Weight*: birth weight of less than 1,500 grams or approximately 3 pounds, 5 ounces.

Infant and Fetal Deaths

- *Delivery Weight*: the first weight of the fetus obtained after delivery. Delivery weight is recorded in grams.
- *Fetal Death*: death prior to the complete expulsion or extraction from its mother of a product of conception; the fetus shows no signs of life such as breathing or beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. Fetal deaths are also referred to as stillbirths, miscarriages, or abortions.
- *Infant Death*: death within the first year of life.
- *Neonatal Death*: death of an infant within the first 27 days of life.
- *Perinatal Mortality*: the sum of fetal deaths of 20 or more weeks gestation plus neonatal deaths
- *Postneonatal Death*: death of an infant from 28 days to one year of life.

Deaths

- *Cause of Death Classification*: a system of specification of the diseases and/or injuries which led to death and the sequential order of their occurrence. The version of the system in use in 2002 was the *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision* (ICD-10), sponsored by the World Health Organization. Reports in this series prior to 1999 used the ninth revision (ICD-9).
- *Comparability Ratio*: a number used to measure the effect of changes in classification and coding rules between revisions of the International Classification of Diseases (ICD). Comparability ratios less than 1.0 result from fewer deaths being classified to cause x under ICD-10 compared with the comparable cause under ICD-9. Ratios greater than 1.0 result from more deaths being classified to cause x under ICD-10. Preliminary comparability ratios used in this report should not be used on data prior to 1994 and caution should be exercised when applying the ratios to age-, race-, or sex-specific

data.

- *Underlying Cause of Death:* the disease or injury which initiated the train of events leading directly to death or the circumstances of the unintentional injury or violence which produced the fatal injury. All cause-of-death data in this report relate to the underlying cause of death coded from the death certificate.

All Tables in the Report

- *Not Stated:* an inclusive term used to represent data which are missing, unknown, not available, or not classifiable.
- *Percent Change:* the difference between the new number, rate, or percentage and the old number, rate, or percentage divided by the old number, rate, or percentage multiplied by 100:
$$(\text{new} - \text{old})/\text{old} * 100$$

RATES

The presentation of vital statistics in the form of rates facilitates comparisons between political subdivisions with populations of different sizes or between subgroups of a population. Crude rates are calculated by dividing the number of events of a type that occur to the residents of an area (e.g., births, deaths) by the resident population of an area or subgroup. The events are limited to those that occur within a specific time period, usually a year, and the population is, in general, the mid-year estimate of the resident population of the area. Crude rates are expressed in terms of occurrences within a standard, rounded population, usually 1,000 or 100,000.

In order to compare birth and death experiences among various ages and races or between the sexes, rates may be computed for subgroups of the population. These are referred to as age-, race-, or sex-specific rates and are calculated by dividing the relevant events within a subgroup by the population in the subgroup. Death rates from specific causes may also be calculated, with the numerator consisting of the deaths from the particular cause in an area and the denominator comprised of the population at risk of the disease or condition.

The numbers of births and deaths in an area are directly related to the demographic characteristics of the area's population. In comparing rates over time or among geographic areas, it is helpful to eliminate the effects of the differences in the populations' demographic characteristics on the comparison. This can be accomplished through adjustments of the rates for the particular characteristics of interest. The most common type of adjustment of rates is for age. Direct adjustment of vital statistics rates involves application of existing rates (age-, race-, or sex-specific) to a standard population to arrive at the theoretical number of events that *would* occur in the standard population, at the rates prevailing in the actual population. These events are then divided by the total number of persons in the standard population to arrive at an adjusted rate. Adjusted rates are index numbers and cannot be compared to crude or other actual rates. The use of adjusted rates is limited to comparison with other adjusted rates, based on the same standard population. The standard population used in this report is the United States 2000 standard million, derived from the projection of counts from the 2000 decennial census. Reports in this series prior to 1999 used the US 1940 standard million for age-adjustment.

The definition of rates used in this report follows. It should be noted that alternative forms exist for some of these statistics. Some other states and the federal government may employ different formulae for the computation of selected rates.

Births

- *Age-Specific Birth Rate:* the number of resident births to females in a specific age group per 1,000 females in the age group.
- *Crude Birth Rate:* the number of resident births per 1,000 population.

- *First Birth Rate*: determined from the sum of number of births now living plus number of (live) births now dead on the birth certificate. If either of these is not stated, the sum is considered not stated. For those whose sum equals zero, rates are computed per 1,000 female population.
- *General Fertility Rate*: the number of resident births per 1,000 females aged 15-44 years.
- *Total Fertility Rate*: age-specific birth rates of women in five-year age groups multiplied by five and summed to form a total for all ages. This rate indicates the number of children a cohort of 1,000 women would bear if they experienced the existing age-specific birth rates throughout their childbearing years.

Infant and Fetal Deaths

- *Fetal Mortality Rate*: the number of resident fetal deaths of 20 or more weeks gestation per 1,000 resident live births plus fetal deaths of 20 or more weeks of gestation.
- *Infant Death Rate*: the number of resident deaths under one year of age per 1,000 population. (The infant death rate is not presented in this report.)
- *Infant Mortality Rate*: the number of resident deaths under one year of age in a given year per 1,000 births in the same year.
- *Neonatal Mortality Rate*: the number of resident infant deaths within the first 27 days of life per 1,000 live births.
- *Perinatal Mortality Rate*: the number of resident fetal deaths of 20 or more weeks gestation plus neonatal deaths per 1,000 resident live births plus fetal deaths of 20 or more weeks of gestation.
- *Postneonatal Mortality Rate*: the number of resident infant deaths from 28 days to one year of life per 1,000 live births.

Deaths

- *Age-Adjusted Death Rate*: Direct Method-the elimination of the effect of age on the crude death rates for purposes of comparison with other rates by applying actual age-specific rates to a standard population. The resulting death rate in the standard population is age-adjusted and can be compared to other death rates age-adjusted to the same standard population.
- *Age-Specific Death Rate*: the number of resident deaths in a specific age group per 100,000 population in the age group.
- *Cause-Specific Death Rate*: the number of resident deaths from a specific cause per 100,000 population.
- *Crude Death Rate*: the number of resident deaths per 100,000 population.

Marriages and Divorces

- *Marriage Rate*: the number of marriage certificates issued in an area per 1,000 population.
- *Divorce Rate*: the number of divorces occurring in an area per 1,000 population.

All Rates in the Report

Caution should be exercised in the interpretation of rates based on small numbers. Chance variations in the number of vital events occurring in sparsely populated areas can cause rates to fluctuate widely over time. In accordance with NCHS standards, percentages or rates based on fewer than 20 cases are considered unreliable for analysis purposes. Therefore, these percentages and rates are not displayed

and are indicated by ** in the appropriate cell. For purposes of analyzing vital statistics rates for small areas, calculation of three- or five-year average rates and other statistical methodologies for analyzing small numbers may provide more meaningful measures.

CAUSE-OF-DEATH RANKINGS

The cause-of-death rankings found in this report are based on distinct causes of death from the list of 31 cause groups and two residual categories employed in the cause-of-death distributions by race-sex groups and age and by county in the report. This list is derived from the NCHS List of 113 Selected Causes of Death ([Kochanek, 2004](#)) and modified for use in New Jersey.

The cause-of-death rankings of infant and fetal deaths are based on the NCHS List of 130 Selected Causes of Infant Death and List of 124 Selected Causes of Fetal Death ([Kochanek, 2004](#)).

ICD-10 CAUSE OF DEATH CODES AND COMPARABILITY RATIOS

Table A. ICD codes and comparability ratios for major cause of death groups

Table B. ICD-10 codes for detailed causes of death

Table C. ICD codes and comparability ratios for cancer sites

Table D. ICD-10 codes for external (injury) cause of death groups

Table E. ICD-10 codes for causes of infant death

Table F. ICD-10 codes for causes of fetal death

Table A. ICD codes and comparability ratios for major cause of death groups tabulated in *New Jersey Health Statistics, 2003*

Cause of death group	ICD-10 codes	ICD-9 codes	Comparability ratio	Standard error
Tuberculosis	A16-A19	010-018	0.8547	0.0172
Septicemia	A40-A41	038	1.1949	0.0042
Viral hepatitis	B15-B19	070	0.8343	0.0120
Human immunodeficiency virus (HIV) disease	B20-B24	042-044	1.1448	0.0045
Other & unspecified infectious & parasitic diseases	A00-A09,A20-A39,A42-A44, A46,A48-B09,B25-B99	---	**	**
Malignant neoplasms (cancer)	C00-C97	140-208	1.0068	0.0002
In situ neoplasms, benign neoplasms, & neoplasms of uncertain or unknown behavior	D00-D48	210-239	1.6744	0.0164
Anemias	D50-D64	280-285	0.9559	0.0077
Diabetes mellitus	E10-E14	250	1.0082	0.0011
Nutritional deficiencies	E40-E64	260-269	1.1636	0.0165
Parkinson's disease	G20-G21	332	1.0012	0.0028
Alzheimer's disease	G30	331.0	1.5536	0.0071
Diseases of heart (heart disease)	I00-I09,I11,I13,I20-I51	390-398,402,404,410-429	0.9858	0.0002
Essential (primary) hypertension & hypertensive renal disease	I10,I12	401,403	1.1192	0.0050
Cerebrovascular diseases (stroke)	I60-I69	430-434,436-438	1.0588	0.0008
Atherosclerosis	I70	440	0.9637	0.0025
Aortic aneurysm & dissection	I71	441	1.0012	0.0010
Influenza & pneumonia	J10-J18	480-487	0.6982	0.0018
Chronic lower respiratory diseases (CLRD)	J40-J47	490-494,496	1.0478	0.0009
Pneumonitis due to solids & liquids	J69	507	1.1185	0.0048
Peptic ulcer	K25-K28	531-534	0.9696	0.0045
Chronic liver disease & cirrhosis	K70,K73-K74	571	1.0367	0.0027
Cholelithiasis & other disorders of gallbladder	K80-K82	574-575	0.9567	0.0060
Nephritis, nephrotic syndrome, & nephrosis (kidney disease)	N00-N07,N17-N19,N25-N27	580-589	1.2320	0.0044
Pregnancy, childbirth, & the puerperium	O00-O99	630-676	**	**
Certain conditions originating in the perinatal period (perinatal conditions)	P00-P96	760-771.2,771.4-779	1.0658	0.0033
Congenital malformations, deformations, & chromosomal abnormalities (anomalies)	Q00-Q99	740-759	0.8470	0.0055

Cause of death group	ICD-10 codes	ICD-9 codes	Comparability ratio	Standard error
Symptoms, signs & abnormal clinical & laboratory findings, not elsewhere classified	R00-R99	780-799	0.9553	0.0034
All other diseases (residual)	Residual	Residual	**	**
Accidents (unintentional injuries)	V01-X59,Y85-Y86	E800-E869,E880-E929	1.0305	0.0014
Intentional self-harm (suicide)	*U03,X60-X84,Y87.0	E950-E959	0.9962	0.0005
Assault (homicide)	*U01-*U02,X85-Y09,Y87.1	E960-E969	0.9983	0.0006
All other external causes	Y10-Y36,Y40-Y84,Y87.2, Y88,Y89.0-Y89.1,Y89.9	---	**	**

--- No comparable category used under ICD-9.

* NCHS codes for deaths due to acts of terrorism.

** Figure does not meet standards of reliability or precision.

NCHS does not recommend using these ratios with data prior to 1994.

Caution should be taken when applying the comparability ratios to age-, race-, or sex-specific or age-adjusted mortality data.

Source: National Center for Health Statistics

Table B. ICD-10 codes for detailed causes of death tabulated in *New Jersey Health Statistics, 2003*

Cause of death	ICD-10 codes
Salmonella infections	A01-A02
Shigellosis and amebiasis	A03,A06
Certain other intestinal infections	A04,A07-A09
Tuberculosis	A16-A19
Respiratory tuberculosis	A16
Other tuberculosis	A17-A19
Whooping cough	A37
Scarlet fever and erysipelas	A38,A46
Meningococcal infection	A39
Septicemia	A40-A41
Syphilis	A50-A53
Acute poliomyelitis	A80
Arthropod-borne viral encephalitis	A83-A84,A85.2
Measles	B05
Viral hepatitis	B15-B19
Human immunodeficiency virus (HIV) disease	B20-B24
Malaria	B50-B54
Other and unspecified infectious and parasitic diseases and their sequelae	A00,A05,A20-A36,A42-A44,A48-A49, A54-A79,A81-A82,A85.0-A85.1,A85.8, A86-B04,B06-B09,B25-B49,B55-B99
Malignant neoplasms	C00-C97
Malignant neoplasms of lip, oral cavity and pharynx	C00-C14
Malignant neoplasm of esophagus	C15
Malignant neoplasm of stomach	C16
Malignant neoplasms of colon, rectum and anus	C18-C21
Malignant neoplasms of liver and intrahepatic bile ducts	C22
Malignant neoplasm of pancreas	C25
Malignant neoplasm of larynx	C32
Malignant neoplasms of trachea, bronchus and lung	C33-C34
Malignant melanoma of skin	C43
Malignant neoplasm of breast	C50
Malignant neoplasm of cervix uteri	C53
Malignant neoplasms of corpus uteri and uterus, part unspecified	C54-C55
Malignant neoplasm of ovary	C56
Malignant neoplasm of prostate	C61
Malignant neoplasms of kidney and renal pelvis	C64-C65
Malignant neoplasm of bladder	C67
Malignant neoplasms of meninges, brain and other parts of central nervous system	C70-C72
Malignant neoplasms of lymphoid, hematopoietic and related tissue	C81-C96
Hodgkin's disease	C81
Non-Hodgkin's lymphoma	C82-C85
Leukemia	C91-C95
Multiple myeloma and immunoproliferative neoplasms	C88,C90
Other and unspecified malignant neoplasms of lymphoid, hematopoietic and related tissue	C96

Cause of death	ICD-10 codes
All other and unspecified malignant neoplasms	C17,C23-C24,C26-C31,C37-C41,C44-C49,C51-C52,C57-C60,C62-C63,C66,C68-C69,C73-C80,C97
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior	D00-D48
Anemias	D50-D64
Diabetes mellitus	E10-E14
Nutritional deficiencies	E40-E64
Malnutrition	E40-E46
Other nutritional deficiencies	E50-E64
Meningitis	G00,G03
Parkinson's disease	G20-G21
Alzheimer's disease	G30
Major cardiovascular diseases	I00-I78
Diseases of heart	I00-I09,I11,I13,I20-I51
Acute rheumatic fever and chronic rheumatic heart diseases	I00-I09
Hypertensive heart disease	I11
Hypertensive heart and renal disease	I13
Ischemic heart diseases	I20-I25
Acute myocardial infarction	I21-I22
Other acute ischemic heart diseases	I24
Other forms of chronic ischemic heart disease	I20,I25
Atherosclerotic cardiovascular disease, so described	I25.0
All other forms of chronic ischemic heart disease	I20,I25.1-I25.9
Other heart diseases	I26-I51
Acute and subacute endocarditis	I33
Diseases of pericardium and acute myocarditis	I30-I31,I40
Heart failure	I50
All other forms of heart disease	I26-I28,I34-I38,I42-I49,I51
Essential (primary) hypertension and hypertensive renal disease	I10,I12
Cerebrovascular diseases	I60-I69
Atherosclerosis	I70
Other diseases of circulatory system	I71-I78
Aortic aneurysm and dissection	I71
Other diseases of arteries, arterioles and capillaries	I72-I78
Other disorders of circulatory system	I80-I99
Influenza and pneumonia	J10-J18
Influenza	J10-J11
Pneumonia	J12-J18
Other acute lower respiratory infections	J20-J22
Acute bronchitis and bronchiolitis	J20-J21
Unspecified acute lower respiratory infection	J22
Chronic lower respiratory diseases	J40-J47
Bronchitis, chronic and unspecified	J40-J42
Emphysema	J43
Asthma	J45-J46
Other chronic lower respiratory diseases	J44,J47

Cause of death	ICD-10 codes
Pneumoconioses and chemical effects	J60-J66,J68
Pneumonitis due to solids and liquids	J69
Other diseases of respiratory system	J00-J06,J30-J39,J67,J70-J98
Peptic ulcer	K25-K28
Diseases of appendix	K35-K38
Hernia	K40-K46
Chronic liver disease and cirrhosis	K70,K73-K74
Alcoholic liver disease	K70
Other chronic liver disease and cirrhosis	K73-K74
Cholelithiasis and other disorders of gallbladder	K80-K82
Nephritis, nephrotic syndrome and nephrosis	N00-N07,N17-N19,N25-N27
Acute and rapidly progressive nephritic and nephrotic syndrome	N00-N01,N04
Chronic glomerulonephritis, nephritis and nephritis not specified as acute or chronic, and renal sclerosis unspecified	N02-N03,N05-N07,N26
Renal failure	N17-N19
Other disorders of kidney	N25,N27
Infections of kidney	N10-N12,N13.6,N15.1
Hyperplasia of prostate	N40
Inflammatory diseases of female pelvic organs	N70-N76
Pregnancy, childbirth and the puerperium	O00-O99
Pregnancy with abortive outcome	O00-O07
Other complications of pregnancy, childbirth and the puerperium	O10-O99
Certain conditions originating in the perinatal period	P00-P96
Congenital malformations, deformations and chromosomal abnormalities	Q00-Q99
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	R00-R99
All other diseases (Residual)	Residual
Accidents (unintentional injuries)	V01-X59,Y85-Y86
Transport accidents	V01-V99,Y85
Motor vehicle accidents	V02-V04,V09.0,V09.2,V12-V14,V19.0-V19.2,V19.4-V19.6,V20-V79,V80.3-V80.5,V81.0-V81.1,V82.0-V82.1,V83-V86,V87.0-V87.8,V88.0-V88.8,V89.0,V89.2
Other land transport accidents	V01,V05-V06,V09.1,V09.3-V09.9,V10-V11,V15-V18,V19.3,V19.8-V19.9,V80.0-V80.2,V80.6-V80.9,V81.2-V81.9,V82.2-V82.9,V87.9,V88.9,V89.1,V89.3,V89.9
Water, air and space, and other and unspecified transport accidents and their sequelae	V90-V99,Y85
Nontransport accidents	W00-X59,Y86
Falls	W00-W19
Accidental discharge of firearms	W32-W34
Accidental drowning and submersion	W65-W74
Accidental exposure to smoke, fire and flames	X00-X09

Cause of death	ICD-10 codes
Accidental poisoning and exposure to noxious substances	X40-X49
Other and unspecified nontransport accidents and their sequelae	W20-W31,W35-W64,W75-W99,X10-X39,X50-X59,Y86
Intentional self-harm (suicide)	*U03,X60-X84,Y87.0
Intentional self-harm (suicide) by discharge of firearms	X72-X74
Intentional self-harm (suicide) by other and unspecified means and their sequelae	*U03,X60-X71,X75-X84,Y87.0
Assault (homicide)	*U01-*U02,X85-Y09,Y87.1
Assault (homicide) by discharge of firearms	X93-X95
Assault (homicide) by other and unspecified means and their sequelae	*U01-*U02,X85-X92,X96-Y09,Y87.1
Legal intervention	Y35,Y89.0
Events of undetermined intent	Y10-Y34,Y87.2,Y89.9
Discharge of firearms, undetermined intent	Y22-Y24
Other and unspecified events of undetermined intent and their sequelae	Y10-Y21,Y25-Y34,Y87.2,Y89.9
Operations of war and their sequelae	Y36,Y89.1
Complications of medical and surgical care	Y40-Y84,Y88

* NCHS codes for deaths due to acts of terrorism.

Source: National Center for Health Statistics List of 113 Selected Causes of Death

Table C. ICD codes and comparability ratios for cancer sites tabulated in *New Jersey Health Statistics, 2003*

Cancer site	ICD-10 codes	ICD-9 codes	Comparability ratio	Standard error
Lip, oral cavity, & pharynx	C00-C14	140-149	0.9603	0.0040
Esophagus	C15	150	0.9965	0.0020
Stomach	C16	151	1.0063	0.0019
Colon, rectum, & anus	C18-C21	153-154	0.9993	0.0009
Liver & intrahepatic bile ducts	C22	155	0.9634	0.0023
Pancreas	C25	157	0.9980	0.0009
Larynx	C32	161	1.0047	0.0053
Trachea, lung, & bronchus	C33-C34	162	0.9837	0.0005
Skin	C43	172	0.9677	0.0032
Breast	C50	174-175	1.0056	0.0010
Cervix uteri	C53	180	0.9871	0.0034
Corpus uteri & uterus, part unspecified	C54-C55	179,182	1.0260	0.0040
Ovary	C56	183.0	0.9954	0.0016
Prostate	C61	185	1.0134	0.0015
Kidney & renal pelvis	C64-C65	189.0,189.1	1.0000	0.0022
Bladder	C67	188	0.9968	0.0026
Nervous system	C70-C72	191-192	0.9691	0.0025
Hodgkin's disease	C81	201	0.9855	0.0089
Non-Hodgkin's lymphoma	C82-C85	200,202	0.9781	0.0018
Leukemia	C91-C95	204-208	1.0119	0.0019
Multiple myeloma & immunoproliferative	C88,C90	203	1.0383	0.0030
Other & unspecified lymphoid, hematopoietic, & related tissue	C96	---	**	**
Other & unspecified sites	C17,C23-C24,C26-C31,C37-C41,C44-C49,C51-C52,C57-C60,C62-C63,C66,C68-C69,C73-C80,C97	152,156,158-160,163-171,173,181,183.2-184,186-187,189.2-190,193-199	1.1251	0.0021
All cancer sites (total)	C00-C97	140-208	1.0068	0.0002

--- Category not applicable.

** Figure does not meet standards of reliability or precision.

NCHS does not recommend using these ratios with data prior to 1994.

Caution should be taken when applying the comparability ratios to age-, race-, or sex-specific or age-adjusted mortality data.

Source: National Center for Health Statistics

Table D. ICD-10 codes for external (injury) cause of death groups tabulated in *New Jersey Health Statistics, 2003*

External (injury) cause of death	ICD-10 codes
<i>Unintentional injuries:</i>	
Motor vehicle	V02-V04,V09.0,V09.2,V12-V14,V19.0-V19.2, V19.4-V19.6,V20-V79,V80.3-V80.5,V81.0-V81.1,V82.0-V82.1,V83-V86,V87.0-V87.8,V88.0-V88.8,V89.0, V89.2
Other land transport	V01,V05-V06,V09.1,V09.3-V09.9,V10-V11,V15-V18,V19.3,V19.8-V19.9,V80.0-V80.2,V80.6-V80.9,V81.2-V81.9,V82.2-V82.9, V87.9,V88.9, V89.1,V89.3,V89.9
Other (non-land) transport	V90-V99,Y85
Falls	W00-W19
Firearms	W32-W34
Drowning	W65-W74
Smoke, fire, & flames	X00-X09
Poisoning	X40-X49
Drug poisoning	X40-X44
Other poisoning	X45-X49
Other injuries	W20-W31,W35-W64,W75-W99,X10-X39,X50-X59,Y86
All unintentional injuries (total)	V01-X59,Y85-Y86
<i>Suicide:</i>	
Terrorism	*U03
Poisoning	X60-X69
Hanging, strangulation, and suffocation	X70
Drowning and submersion	X71
Firearm	X72-X74
Explosives	X75
Smoke, fire, and flames	X76
Steam, vapors, hot objects	X77
Sharp object	X78
Blunt object	X79
Jumping from a high place	X80
Jumping or lying before moving object	X81
Crashing of motor vehicle	X82
Other specified means	X83
Unspecified means	X84
Sequelae of intentional self-harm	Y87.0
All suicides (total)	*U03,X60-X84,Y87.0
<i>Homicide:</i>	
Terrorism	*U01-*U02
Poisoning	X85-X90
Hanging, strangulation, and suffocation	X91
Drowning	X92
Firearm	X93-X95
Explosives	X96
Smoke, fire, and flames	X97
Steam, vapors, hot objects	X98
Sharp object	X99
Blunt object	Y00

External (injury) cause of death	ICD-10 codes
Pushing from high place	Y01
Pushing in front of moving object	Y02
Motor vehicle crash	Y03
Bodily force	Y04
Sexual assault	Y05
Neglect and abandonment	Y06
Other maltreatment syndromes	Y07
Other specified means	Y08
Unspecified means	Y09
Sequelae of assault	Y87.1
All homicides (total)	*U01-*U02,X85-Y09,Y87.1
Firearm-related:	
Homicide	*U01.4,X93-X95
Suicide	X72-X74
Unintentional	W32-W34
Legal intervention	Y35.0
Undetermined intent	Y22-Y24
All firearm-related deaths (total)	*U01.4,W32-W34,X72-X74, X93-X95,Y22-Y24, Y35.0
Drug-induced:	
	F11.0-F11.5,F11.7-F11.9,F12.0-F12.5,F12.7-F12.9,F13.0-F13.5, F13.7-F13.9,F14.0-F14.5,F14.7-F14.9,F15.0-F15.5,F15.7-F15.9, F16.0-F16.5,F16.7-F16.9,F17.0,F17.3-F17.5,F17.7-F17.9,F18.0- F18.5,F18.7-F18.9,F19.0-F19.5,F19.7-F19.9,X40-X44,X60-X64, X85,Y10-Y14
Alcohol-induced:	
	F10,G31.2,G62.1,I42.6,K29.2,K70,R78.0,X45, X65,Y15

* NCHS codes for deaths due to acts of terrorism.

Source: National Center for Health Statistics

Table E. ICD-10 codes for causes of infant death tabulated in *New Jersey Health Statistics, 2003*

Cause of infant death	ICD-10 codes
Septicemia	A40-A41
Diseases of the circulatory system	I00-I99
Renal failure and other disorders of kidney (kidney disorders)	N17-N19,N25,N27
Newborn affected by other maternal conditions which may be unrelated to present pregnancy	P00.1-P00.9
Newborn affected by maternal complications of pregnancy	P01
Newborn affected by complications of placenta, cord and membranes	P02
Disorders related to short gestation and low birth weight, not elsewhere classified	P07
Intrauterine hypoxia and birth asphyxia	P20-P21
Respiratory distress of newborn	P22
Chronic respiratory disease originating in the perinatal period	P27
Bacterial sepsis of newborn	P36
Neonatal hemorrhage	P50-P52,P54
Necrotizing enterocolitis of newborn	P77
Congenital malformations, deformations and chromosomal abnormalities (congenital anomalies)	Q00-Q99
Sudden infant death syndrome (SIDS)	R95

Source: National Center for Health Statistics List of 130 Selected Causes of Infant Death

Table F. ICD-10 codes for causes of fetal death tabulated in *New Jersey Health Statistics, 2003*

Cause of fetal death	ICD-10 codes
Fetus affected by maternal conditions that may be unrelated to present pregnancy	P00
Fetus affected by maternal complications of pregnancy	P01
Fetus affected by complications of placenta, cord and membranes	P02
Disorders related to short gestation and low birth weight, not elsewhere classified	P07
Intrauterine hypoxia and birth asphyxia	P20-P21
Bacterial sepsis	P36
Fetal hemorrhage	P50-P54
Hydrops fetalis not due to hemolytic disease	P83.2
Fetal death of unspecified cause	P95
Congenital malformations, deformations and chromosomal abnormalities (congenital anomalies)	Q00-Q99

Source: National Center for Health Statistics List of 124 Selected Causes of Fetal Death

REFERENCES

- Arias E. United States Life Tables, 2002. *National Vital Statistics Reports*; Vol 53 No 63. Hyattsville, MD: National Center for Health Statistics. 2004. http://www.cdc.gov/nchs/data/nvsr/nvsr53/nvsr53_06.pdf
- Baron M. *Asian and Pacific Islander Mortality in New Jersey, 1989-1998*. Trenton, NJ: New Jersey Department of Health and Senior Services, Center for Health Statistics. 2001. <http://www.state.nj.us/health/chs/asian/asianmort89-98.htm>
- Baron M. *Hispanic Mortality in New Jersey, 1989-1998*. Trenton, NJ: New Jersey Department of Health and Senior Services, Center for Health Statistics. 2001. <http://www.state.nj.us/health/chs/hispanic/hispmort89-98.htm>
- Baron Duffy ML. *New Jersey Health Statistics, 2002*. Trenton, NJ: New Jersey Department of Health and Senior Services, Center for Health Statistics. 2005. <http://www.state.nj.us/health/chs/stats02/index.html>
- Elo IT, Turra CM, et al. Mortality among Elderly Hispanics in the United States: Past Evidence and New Results. *Demography*; Vol 41, No 1: 109-128. 2004.
- Hoyert DL. Fetal mortality by maternal education and prenatal care, 1990. *Vital and Health Statistics*; Vol 20 No 30. Hyattsville, MD: National Center for Health Statistics. 1996. http://www.cdc.gov/nchs/data/series/sr_20/sr20_030.pdf
- Hoyert DL, Kung H, et al. Deaths: Preliminary Data for 2003. *National Vital Statistics Reports*; Vol 53 No 15. Hyattsville, MD: National Center for Health Statistics. 2005. http://www.cdc.gov/nchs/data/nvsr/nvsr53/nvsr53_15.pdf
- Institute of Medicine, National Academy of Sciences, Subcommittee on Nutritional Status and Weight Gain during Pregnancy. *Nutrition During Pregnancy*. Washington, DC: National Academy Press. 1990. <http://www.nap.edu/catalog/1451.html>
- Knoublauch K. *New Jersey Electronic Birth Certificate and Perinatal Database Data Dictionary*. Trenton, NJ: New Jersey Department of Health and Senior Services, Bureau of Vital Statistics and Registration. 2005. http://www.state.nj.us/health/vital/data_dictionary.pdf
- Kochanek K, Murphy SL, et al. Deaths: Final Data for 2002. *National Vital Statistics Reports*; Vol 53, No 5. Hyattsville, MD: National Center for Health Statistics. 2004. http://www.cdc.gov/nchs/data/nvsr/nvsr53/nvsr53_05.pdf
- Martin JA, Hamilton BE, et al. Births: Final Data for 2003. *National Vital Statistics Reports*; Vol 54 No 2. Hyattsville, MD: National Center for Health Statistics. 2005. http://www.cdc.gov/nchs/data/nvsr/nvsr54/nvsr54_02.pdf
- National Center for Health Statistics. Bridged-race Vintage 2003 postcensal population estimates for July 1, 2000 - July 1, 2003, by year, county, single-year of age, bridged-race, Hispanic origin, and sex. Data file pcen_v2003.txt. 2004. <http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm>
- Palloni A, Arias E. Paradox Lost: Explaining the Hispanic Adult Mortality Advantage. *Demography*; Vol 41, No 3: 385-415. 2004.
- Rosenberg HM, Maurer JD, et al. Quality of Death Rates by Race and Hispanic Origin: A Summary of Current Research, 1999. *Vital and Health Statistics*; Series 2, No 128. Hyattsville, MD: National Center for Health Statistics. 1999. http://www.cdc.gov/nchs/data/series/sr_02/sr02_128.pdf

Singh GK, Siahpush M. All-cause and cause-specific mortality of immigrants and native born in the United States. *Am J Public Health*; Vol 91, No 3: 392-399. 2001.
<http://www.ajph.org/cgi/content/abstract/91/3/392>

Word DL, Perkins RC. *Building a Spanish Surname List for the 1990's— A New Approach to an Old Problem*. US Bureau of the Census, Population Division. Technical Working Paper No. 13. 1996.
<http://www.census.gov/population/documentation/twpno13.pdf>

World Health Organization. *International Classification of Diseases and Related Health Problems: Tenth Revision*. Geneva. 1992.

SELECTED SOURCES FOR ADDITIONAL NEW JERSEY HEALTH DATA AND INFORMATION

Information	Agency	Phone Number	E-mail Address	Web Site
Vital Statistics Data (Births, Deaths, Fetal Deaths, Marriages)	Center for Health Statistics	(609) 984-6702	chs@doh.state.nj.us	nj.gov/health/chs/
Copies of Vital Records	Office of Vital Statistics	(609) 292-4087	records@doh.state.nj.us	nj.gov/health/vital/vital.shtml
Population Estimates and Census Data	State Data Center (NJ Dept of Labor)	(609) 292-0076		nj.gov/labor/lra/
Cancer Surveillance	Cancer Epidemiology Services	(609) 588-3500	cancer@doh.state.nj.us	nj.gov/health/ces/index.shtml
Injury Surveillance	Office of Injury Surveillance and Prevention	(609) 984-6702	chs@doh.state.nj.us	nj.gov/health/chs/oisp/index.shtml
Diabetes Prevalence	Diabetes Prevention and Control Program	(609) 984-6137		nj.gov/health/fhs/diabindex.shtml
HIV/AIDS Surveillance	Division of AIDS Services	(609) 984-5940	aids@doh.state.nj.us	nj.gov/health/aids/aidsprv.htm
Reportable Communicable Diseases	Communicable Disease Service	(609) 588-7500		nj.gov/health/cd/
Tuberculosis Morbidity	Communicable Disease Service	(609) 588-7522		nj.gov/health/cd/tbhome.htm
Sexually Transmitted Disease Morbidity	Communicable Disease Service	(609) 588-7526		nj.gov/health/cd/stdhome.htm
Behavioral Risk Factor Survey (NJBRFS)	Center for Health Statistics	(609) 984-6702	chs@doh.state.nj.us	nj.gov/health/chs/brfss.htm
Induced Terminations of Pregnancy (Abortions)	Center for Health Statistics	(609) 984-6702	chs@doh.state.nj.us	nj.gov/health/chs/itop/index.html

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